National Aeronautics and Space Administration

THE INNOVATION CATALYST

JANUARY 2021

NEW YEAR'S RESOLUTION: KEEPING LAB NOTEBOOKS UP TO DATE

It's a new year, and we're all thankful to put 2020 behind us. If you're looking for a resolution to take into 2021, the Strategic Partnerships Office (SPO) has a great one for you – committing to filling out your lab notebook. For technology transfer, your lab notebook is a crucial piece of the puzzle that helps SPO and Goddard's Office of General Counsel (OGC) document your technology development. There are steps you can take over the course of your research to build a case for your role as the inventor of your technology. With detailed note-taking, SPO and OGC use your lab notebook throughout the patent application process. Here are some suggestions for making sure your research is well-documented this year.

PAPER OR DIGITAL: EITHER WORKS

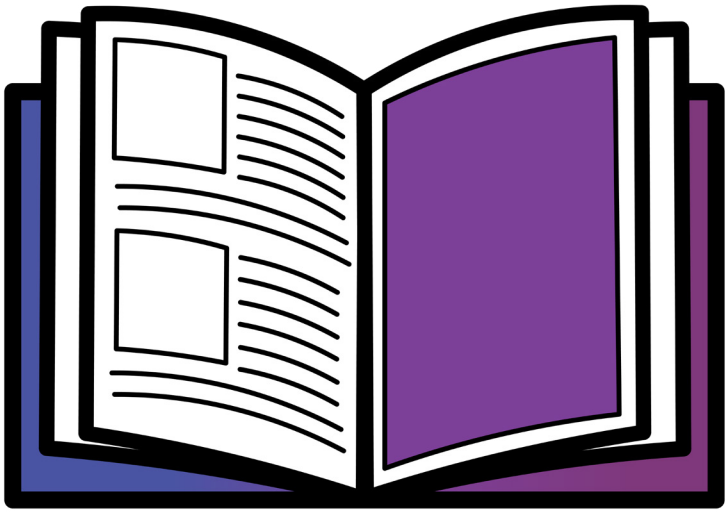
It doesn't matter if you document electronically or the old-fashioned way with a hand-written notebook, but it's important to keep track of progress as you develop your innovation. Your lab notebook should include observations, experiments, explanations of processes, and results obtained from your experimentation. Important note: Don't forget to back-up your files! For an electronic notebook, set regular times to save notebook content in multiple places in case of a computer crash. If you're using a handwritten notebook, make sure it's bound or stitched. Also, remember to number your pages, so you can prove that no pages were added or removed at a later date.

RECORD CONTRIBUTIONS OF ALL INVOLVED

NASA is a collaborative place, which means most NASA inventions involve multiple inventors. That's why it's important to keep track of each individual's contribution throughout the development process. When it comes to matters such as being named as an inventor in a patent application or the distribution of royalties, NASA will need to determine what each person contributed to the invention. As you're doing this, document the employer of each person, and if someone is a contractor, take note of their contract number and Contracting Officer's Representative (COR). A contractor follows different procedures than a civil servant, and it's easier to gather this information incrementally as the project unfolds and evolves.

KEEP TRACK OF DATES AND TIMES

It's important to be thorough in your documentation. Date and sign each entry so you can establish a timeline for the development of your technology. To build the credibility of your documentation, ask someone to review and sign your notebook as a witness. The more work you do upfront, the less you'll have to do when it comes time to submit your New Technology Report. When 2022 comes around and your lab notebook is full of notes, you'll have your New Year's resolution to thank!



SPO'S ACCOMPLISHMENTS REPORT 2020

Each year, SPO showcases the biggest achievements from the year in our Accomplishments Report. This year's unique challenges meant that the report looks a little different this year, with more stories of SPO's actions in the virtual realm. Please enjoy this excerpt from SPO's 2020 Accomplishments Report, and stay tuned for the full PDF!

YEAR IN REVIEW 2020

In a tumultuous year, it's more important than ever to remember the positive work that Goddard's Strategic Partnerships Office managed to accomplish despite many challenges. In all three program areas – technology transfer, partnerships, and the SBIR/STTR programs – SPO made strides and helped support NASA's mission.

The fiscal year started strong, with a **high volume of New Technology Reports** passing through SPO's hands. By the end of Fiscal Year 2020, SPO had logged 278 NTRs, the most in a single year since Fiscal Year 2014. Thanks to the hard work and dedication of our innovators, Goddard scored second place against all other NASA centers for most NTRs. To help facilitate this influx of NTRs, SPO reduced the time it takes to process NTRs by 35 percent, successfully eliminating backlog.

In February of 2020, SPO helped coordinate the second **NASA Commercialization Training Camp**, hosted at NASA's Johnson Space Center in Houston, Texas. The training camp brings together current and former professional athletes through Space Act Agreements with professional athletic organizations to familiarize players with NASA's Technology Transfer Program and commercialization opportunities for NASA technology.

Next, SPO hosted its 25th **Annual New Technology Reporting Program**, an event that honors Goddard's technology developers for excellence in innovation and helping to facilitate the process of tech transfer. For the 25th anniversary of the program, SPO invited special guest speaker Obafemi Ayanbadejo to address the audience about his NASA technology license and startup business. The event also included comments from the family of James Kerley, a late Goddard inventor whose passion for technology development and creativity inspires future generations of innovators.

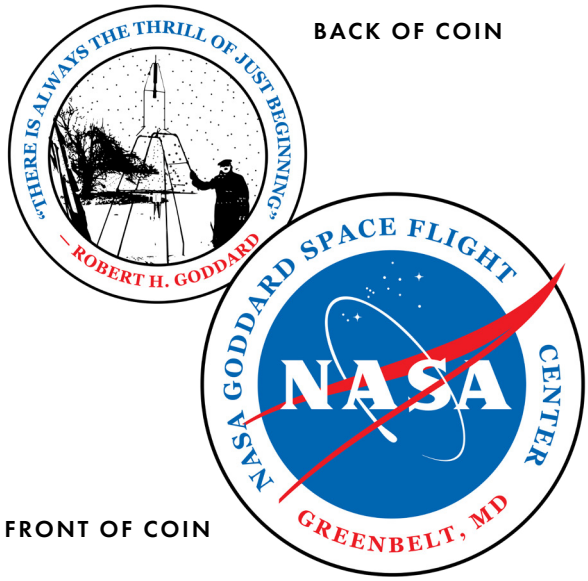
Not long after wrapping up this event, most of Goddard was sent home to telework indefinitely due to the COVID-19 pandemic. As it became clear that this new way of life would continue for some time, SPO worked hard to find ways to stay in touch with Goddard's innovator community and continue pushing forward tech transfer, partnerships, and SBIR/STTR. SPO launched new virtual initiatives, such as **Virtual Roadshows**, **The Coffee Break** and **Goddard Reads**, to keep innovators engaged and communicating about activities relating to SPO.

Finally, SPO welcomed **two new technology managers** to the office in 2020 – Viva Miller and Josh Levine. Miller worked at the U.S. Patent and Trademark Office as a primary patent examiner for almost 10 years, then took a detail position with SPO in 2018 and officially joined NASA in 2020 as a senior technology manager. She holds a bachelor's degree in applied mathematics from William and Mary, and master's degree in engineering management from Duke University, and a law degree from Rutgers University. Levine worked as a research engineer at the University of Washington, then spent 10 years at the U.S. Patent and Trademark Office until joining SPO as a contractor and then converting to a civil servant in 2020 as a technology manager. He holds a bachelor's degree in mechanical engineering with a minor in biomedical engineering from the Rose-Hulman Institute of Technology.

Photo courtesy of the Kerley family.

ANNOUNCEMENTS

Upcoming events and important updates for Goddard innovators



NEW COINS WILL RECOGNIZE FIRST-TIME NTR OR SOFTWARE SUBMISSIONS

If SPO had a favorite acronym, it would probably be "NTR," short for "New Technology Report." There's a reason we talk so much about NTRs – they fuel the process of innovation by documenting your work and informing SPO of potential inventions generated by the Goddard community.

To thank Goddard innovators for participating in the technology transfer process, SPO is giving the Trailblazer Coin to individuals who submit their very first NTR or initiate their first software release in Fiscal Year 2021. If you've already submitted your first NTR this year or initiated your first software release, congratulations! You will receive a Trailblazer Coin.

To qualify, you must have never submitted an NTR in the past or released a software package through the official software release process – this must be your first time. The NTR must have been submitted to SPO or the software release process must have been initiated between the dates of Oct. 1, 2020, and Sept. 30, 2021.

The text on the Trailblazer Coin evokes the words of Robert H. Goddard, who said, "How many more years I shall be able to work on the problem I do not know; I hope, as long as I live. There can be no thought of finishing, for 'aiming at the stars' both literally and figuratively, is a problem to occupy generations, so that no matter how much progress one makes, there is always the thrill of just beginning."

The coin also features the NASA meatball and an image of Robert H. Goddard with his rocket apparatus. SPO hopes these coins serve as physical reminders of your important contribution to NASA's technology transfer mission at the beginning of your journey as an innovator.

FIRST-EVER SPO INNOVATOR HOUR STARTS IN JANUARY

The Innovator Hour is a new initiative from SPO to reach out to Goddard innovators who need dedicated one-on-one time with SPO representatives or technology and agreement managers. Have a question for SPO specific to your situation? You can now book time slots of 20-minute increments to meet with a SPO representative who will analyze your situation. Have a specific technology manager in mind? We'll get you connected and booked. Reserve your spot today! Please contact techtransfer@gsfc.nasa.gov to book an appointment.

The first event will take place Wednesday, Feb. 10, from 11 am to 12:30 pm.

COLLABLAB SERIES HIGHLIGHTS NASA AND SMITHSONIAN PARTNERSHIP

Postponed last year by the COVID-19 pandemic, SPO's "CollabLab" series will premiere in a virtual format on February 24. The series focuses on Goddard collaborations and technology transfer success stories. The first iteration of the series will focus on the unique collaboration between Nithin Abraham, a Goddard thermal coatings engineer, and Catharine Hawks, an objects conservator from the Smithsonian Institution's National Museum of Natural History (NMNH).

In the Contamination and Coatings Engineering Branch (Code 546), Abraham specializes in the research and development of coatings technology and testing. Abraham and her team took part in an effort to study the efficacy of the patented Molecular Adsorber Coating (MAC), a sprayable porous substance made of zeolite that works to trap and contain contaminants. While the technology was developed in order to protect objects and components of spacecraft, Hawks saw its potential effectiveness in her own field of museum conservation.

Look for the link to the presentation on Dateline, and please contact Valeriya Nakshun, valeriya.a.nakshun@nasa.gov, with any questions about this series or future events.

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COFFEE BREAK RETURNS WITH SESSION ON NTRS

After a break for the holidays, The Coffee Break is back, with an NTR- focused presentation by SPO staff. On Jan. 28 at 1 pm, join SPO on Microsoft Teams as we discuss the ins and outs of the New Technology Reporting process and answer your questions in real time. As with previous sessions, the first half of the session contains an informative presentation on the topic, while the second half opens the floor to questions from innovators, who can ask questions using the chat feature in Microsoft Teams. Look for announcements of future Coffee Break sessions on tips including SBIR/STTR, partnerships, and software release.

IN SEARCH OF INTERNAL RESEARCH AND DEVELOPMENT (IRAD) NTRS

Did you win IRAD funding last year and haven't yet submitted an NTR on your work? If so, please look out for an email from SPO. We're asking IRAD funding recipients to submit an NTR for their IRAD research. Any new idea, concept, software, or hardware, even if it's preliminary, can and should be reported to SPO as a new technology to help facilitate the technology transfer process. SPO can assist you with filling out your NTR – please email techtransfer@gsfc.nasa.gov for more information.

FEDERAL LABS CONSORTIUM CALENDAR FEATURES GODDARD TECH

Still looking for a 2021 calendar? Check out the 2021 Federal Labs Consortium Planner, which you can download online and print. Goddard's Miniaturized Modulated X-ray Source (MXS) technology is featured in the calendar for the month of October. The image depicts the mirror assemblies used on the Neutron star Interior Composition Explorer (NICER) mission, which was installed on the International Space Station in 2017. MXS played a role in the mission by calibrating NICER's X-ray detectors before flight. MXS was also chosen by the NASA Inventions and Contributions Board as the winner of Goddard's 2019 Invention of the Year award. Developed by Goddard astrophysicist Keith Gendreau, MXS was created to help NASA peer into the universe with sharp X-ray eyes but has applications in medical imaging, materials science, space communication, and more.

MAKE SPACE FOR YOUR MENTAL HEALTH: STRESS

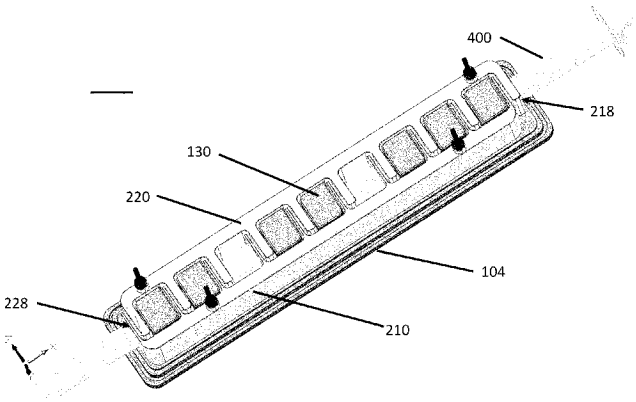
If 2020 caused some stress if your life, you're not alone. Though everyone hopes 2021 brings more positive news, it's important to remember that chronic stress can have a serious detrimental effect on your mental and physical well-being, and there are resources and strategies available to help.

Mental Health America has a quick, online stress screener to evaluate your current levels of stress and the impact it is having on your daily life. If you're struggling, you can schedule an appointment with NASA's Employee Assistance Program. Or, if you're not ready to take that step, check out Mental Health America's Ten Tools as an easy place to start.

TECH TRANSFER TRIVIA

How much do you know about NASA technology transfer? Find out with our monthly quiz!

GUESS THE PATENT DRAWING



CLUE ONE: It has no moving parts, and its light weight and low-energy consumption makes it ideal for small electric components.

CLUE TWO: The technology could be used for computer thermal control in the aerospace and automotive industries.

CLUE THREE: This technology was invented by Goddard innovators Matthew Showalter, Jeffrey Didion, Mario Martins, and Franklin Robinson.

+ WANT TO KNOW THE ANSWERS?

Click here for Tech Transfer Trivia and here for the Guess The Patent Drawing.

Which of these is NOT a way you can benefit from participating in technology transfer?

A. Inventors share in royalties from licensed inventions

B. Inventors can earn awards related to technology transfer

C. Inventors can win an all-expenses-paid trip to the Bahamas

D. Inventors positively contribute to society by helping "spinoff" NASA innovations

True or False: The SBIR/STTR program has a "blackout" period where NASA personnel should not communicate with applicants.

A. True

B. False

If you're contacted by someone interested in licensing your technology, what should you do?

A. Begin negotiations with them

B. Contact SPO

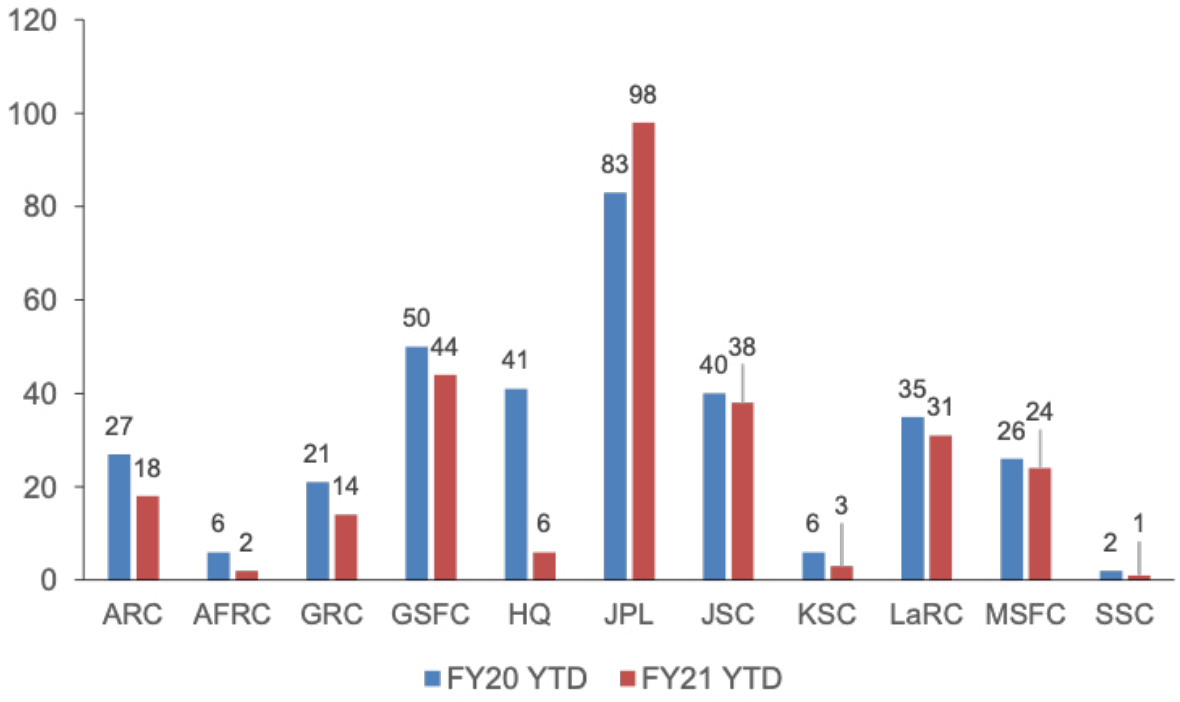
C. Tell them your technology isn't available

D. Ignore them

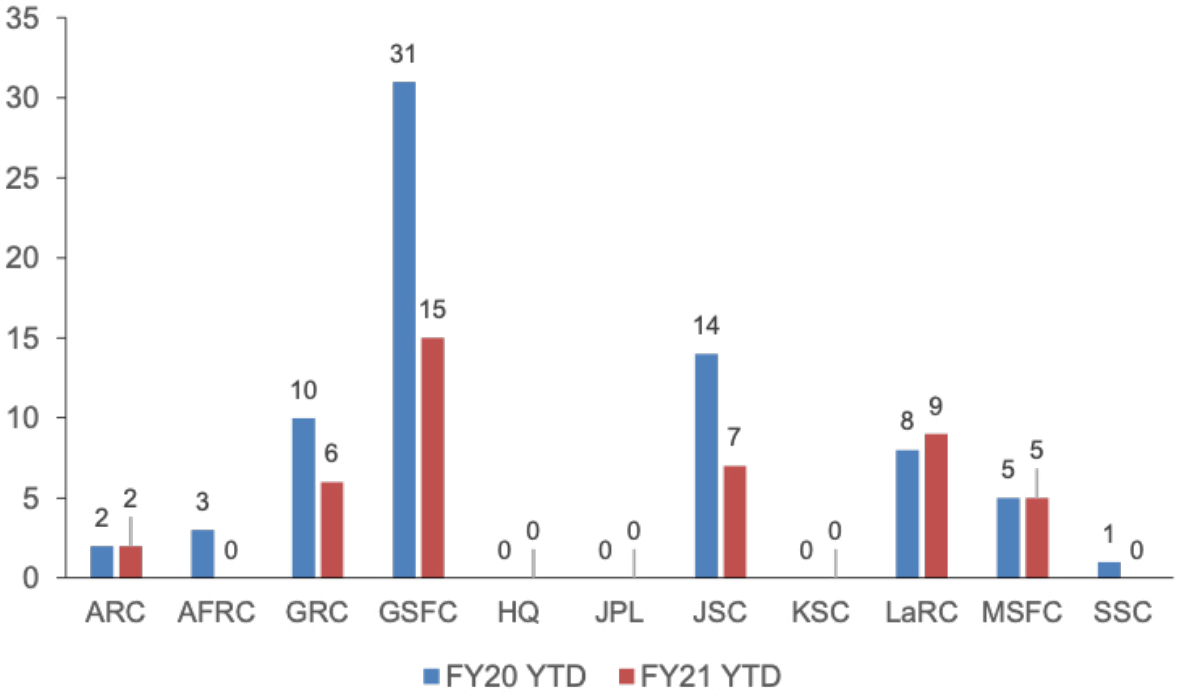
GODDARD *NTR* METRICS

Goddard's New Technology Report (NTR) numbers are off to a good start in Fiscal Year 2021! As of Jan. 1, 2021, Goddard is leading in NTRs reported with a civil servant innovator and is in second place for overall NTRs reported. Thank you to Goddard's innovator community for reporting your innovations. Let's keep up our lead into the second quarter!

Total NTRs Reported



NTRs with at least One NASA Civil Servant Inventor



TECH MANAGER SPOTLIGHT VIVA MILLER

At NASA, Viva Miller fuses her interests in technology, law, and business with her love for space.

"The great thing about space is the unknown," Miller says. "As much as there is comfort in familiarity, I think the unknown just brings out that excitement in me. We don't know what else is out there. NASA is always going to be that agency that people get excited about and want to win, because there's so much you can do with space."

Miller's path to NASA started in high school, when she accepted a summer apprenticeship at NASA's Langley Research Center in Hampton, Virginia. With interests in math, engineering, and analytical writing, Miller pursued an assortment of academic credentials in each area, with a bachelor's degree in applied mathematics from William and Mary, a master's degree in engineering management from Duke University, and a law degree from Rutgers University.

After working at the U.S. Patent and Trademark Office as a primary patent examiner for almost 10 years, Miller took a detail position with Goddard's Strategic Partnerships Office in 2018 and officially joined NASA in 2020 as a senior technology manager. The Innovation Catalyst checked in with Miller to see what she's tackled in her first few months on the job.

WHAT CAREERS DID YOU CONSIDER WHEN YOU WERE GROWING UP?

I was looking at things related to engineering. I always liked the sciences and math in particular, so I knew I wanted to do something in that realm. While I was in high school, I had this affinity for writing and analysis. I wasn't a huge fan of English class until I had a really good teacher in high school who opened my eyes to writing and allowed me to explore that avenue. Law school opened up a way to pursue my love of analytical writing.

WHY DID YOU CHOOSE TO WORK AT NASA IN TECHNOLOGY TRANSFER?

With my academic background in applied mathematics, law, and engineering management, I wanted to do all three, which is why I'm here – this job really allows me to explore the business aspect of law combined with technology. I've always had the mentality that when you have a vast academic background, there are many paths you can explore, even though you may want to focus on one path at a particular time. I knew with my three degrees, I'd be able to do something like tech transfer.

NASA and the Strategic Partnerships Office in particular provide the perfect combination of all three subject areas I've always loved. From the science and math perspective, I get to explore different technologies and gain a better understanding of them. From the law perspective, I'm able to participate in agreements and the licensing side of things. And then there's a business angle that covers all aspects of tech transfer, because I'm considering the technology's value in the marketplace in terms of commercialization.

CODES: 400, 410 + 580

HOW MANY YEARS THEY'VE BEEN AT SPO: 4 months

WHAT DO YOU ENJOY MOST ABOUT WORKING WITH GODDARD'S TECHNOLOGIES?

I think what really excites me about Goddard is the vast array of software in our portfolio. That's up my alley, because at the patent office, those were the types of technologies I examined. I explored all aspects related to software development, debugging, and upgrading. At NASA, there's such a vast array of things we can do with software. When I was on detail here last year, I got to work with technologies related to satellite servicing at Goddard, and I was very intrigued by that, as well.

WHAT IS IT LIKE TO WORK WITH SOFTWARE?

Software is nebulous and abstract. It's not tangible in the sense that physically, you can't put your finger on it. What really excites me about software is that it's constantly evolving. You can make minute changes that alter it dramatically, and that's a beautiful thing about software. Hardware can be incredibly expensive, but oftentimes with software, you can do the same things without the expense. Another interesting aspect of software is that there can be so many different ways you can use a specific software program, and it can apply to a variety of technologies. When you're talking about commercialization and other uses for technology, software is one of those areas where you're going to have a range of uses. And that's what makes software such a flexible platform.

WHY DOES THE SOFTWARE RELEASE PROCESS MATTER?

One of the biggest justifications for software release is to protect your rights as an inventor as well as NASA's rights. That's a huge reason for it. As an inventor, your software is just as important as a robot arm or any other piece of hardware. It's the same thing because comes from your mind as intellectual property, and it's still worth protection. That's why we go through the process of software release. And in order for your software to reach its full potential, it has to meet legal requirements and standards. This is to help protect the agency as well as you, the inventor.

HOW CAN BUSINESSES BEST TAKE ADVANTAGE OF GODDARD'S TECHNOLOGY OFFERINGS?

With Goddard technology, businesses and potential licensees have the advantage of working with technologies that have been tested through and through. When you work with us, you know you're working with a good product. We have talented engineers and scientists who will communicate with you, and you can trust that they want to help. People who are working for a government agency are doing this because they believe in the cause. We have people who are very invested in technology development here, and that's a great reason to work with us.

For questions about Goddard software or other technology transfer topics, you can contact Viva Miller via email: viva.l.miller@nasa.gov.